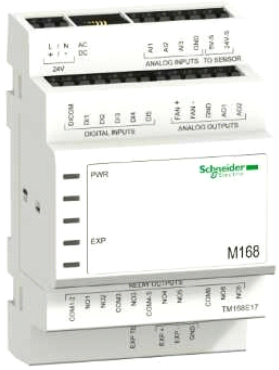
Product datasheet
Characteristics

TM168E17
M168 IO expansion module - 17IO



Main

Range of product	Modicon M168 logic controller
Product or component type	I/O expansion module
Product specific application	-
Input/output number	17
Input/output number	5 discrete input(s) 3 configurable analog input(s) 6 discrete output(s) 1 dedicated PWM output(s) 2 configurable analog output(s)

Complementary

Discrete input number	5
Discrete input logic	Sink or source (positive/negative)
Contacts usage	Free contact
Sensor power supply	4.4...5 V DC 18...36 V DC
Input impedance	0...< 500 Ohm at state 0 for discrete input(s) >= 600 Ohm at state 1 for discrete input(s)
Discrete output number	5 (8 mA) 3 (5 mA)
Contacts type and composition	1 C/O for discrete output(s) 5 NO for discrete output(s)
Minimum load	10 mA at 12 V
Discrete output current	8 mA for relay output 5 mA for relay output
Load current	8 A at 5...30 V DC 8 A at 24...250 V AC 5 A at 5...30 V DC 5 A at 24...250 V AC
Mechanical durability	>= 10000000 cycles for relay output
Electrical durability	>= 120000 cycles DC-12 braking current: 8 A at 30 V, 2 A >= 6000 cycles DC-13 braking current: 8 A at 24 V, 2 A, L/R = 300 ms >= 300000 cycles AC-12 braking current: 8 A at 250 V, 2.5 A >= 6000 cycles AC-15 braking current: 8 A at 250 V, 3 A, cos phi = 0.3 >= 120000 cycles DC-12 braking current: 5 A at 30 V, 2 A >= 200000 cycles DC-13 braking current: 5 A at 24 V, 1 A, L/R = 48 ms >= 300000 cycles AC-12 braking current: 5 A at 250 V, 2.5 A >= 50000 cycles AC-15 braking current: 5 A at 250 V, 3 A, cos phi = 0.4
Operating rate in Hz	<= 10 Hz - off load for discrete output 8 mA <= 0.1 Hz - operating current for discrete output 8 mA <= 20 Hz - off load for discrete output 5 mA <= 0.1 Hz - operating current for discrete output 5 mA
Response time	10 ms on closing for discrete output 8 mA 5 ms on opening for discrete output 8 mA 8 ms on closing for discrete output 5 mA 4 ms on opening for discrete output 5 mA
Analogue input number	3
Analogue input type	Current 0...20 mA/4...20 mA - resolution: 0.01 mA Temperature probe -100...+200 °C - resolution: 0.5 °C - Pt 1000 probe Current 0...10 V or 0...5 V ratio - resolution: 0.01 V Temperature probe -50...+120 °C - resolution: 0.1 °C - NTC probe Temperature probe -50...+150 °C - resolution: 0.1 °C - PTC probe
Analogue output number	2
Analogue output type	Voltage 0...10 V - resolution: 0.01 V Current 0-20 mA or 4-20 mA - resolution: 0.05 mA
Load impedance ohmic	>= 1000 Ohm voltage 40...300 Ohm current

Absolute accuracy error	-5 %...+2 % of full scale 1...5 kOhm for analog output voltage +/- 2 % of full scale > 5 kOhm for analog output voltage +/- 3 % of full scale for analog output current +/- 0.5 % of full scale for analog input
LSB value	10 mV for analog output voltage 0.02 mA for analog output current 0.07 °C for analog input NTC 0.5 °C for analog input Pt 1000 5 mV for analog input voltage 0.01 mA for analog input current
Communication service	Open collector synchro on AC power supply
Protection type	Reverse polarity protection for analog input voltage Overload protection for analog output voltage Reverse polarity protection for power supply
[Us] rated supply voltage	24 V AC 20...40 V DC
Supply voltage limits	20.4...27.6 V
Network frequency	50/60 Hz
Network frequency limits	47...63 Hz
Immunity to microbreaks	10 ms
Power consumption in W	<= 26 W
Power consumption in VA	10 VA at 24 V
Data backed up	Date and hour (internal battery autonomy: 3 days)
Mounting support	35 mm symmetrical DIN rail
Width	71 mm
Height	129.19 mm
Depth	61.5 mm
Product weight	0.372 kg

Environment

Standards	EN/IEC 61000-6-3 EN/IEC 60730-1 EN/IEC 61000-6-1
Product certifications	RoHS REACH UL 60730-1A CSA 60730-1
Marking	CE
Ambient air temperature for operation	-10...55 °C for UL conformance -10...65 °C
Ambient air temperature for storage	-30...70 °C
Relative humidity	5...95 % without condensation
IP degree of protection	IP20 IP40 on front face
Pollution degree	2
Overvoltage category	III
Operating altitude	0...2000 m
Storage altitude	0...3048 m
Vibration resistance	3.5 mm constant amplitude 5...< 8.4 Hz 1 gn constant amplitude 8.4...150 Hz
Shock resistance	15 gn for 11 ms

Offer Sustainability

Sustainable offer status	Not Green Premium product
RoHS	Compliant - since 1041 - Schneider Electric declaration of conformity